

AMENDMENT TO THE CLAIMS

1. (original) A method for depositing a tungsten silicide film, wherein when a tungsten silicide layer is formed on a polysilicon layer, a phosphorus atom containing gas is added to a reactive gas at least in the initial stage that said tungsten silicide layer is formed and the amount of the added phosphorus atom containing gas is set to be in the range from 0.2 vol. % 0.45 vol. %.
2. (original) A method for depositing a tungsten silicide film, wherein a tungsten silicide layer is formed on a polysilicon layer, a phosphorus atom containing gas is added to reactive gas at least in the initial stage that said tungsten silicide layer is formed, and a tungsten silicide layer forming temperature is set to be a temperature at which silicon atoms of said polysilicon layer are activated.
3. (original) A method for depositing a tungsten silicide film as set forth in claim 2, wherein said tungsten silicide layer forming temperature is set to be least 700 °C.
4. (original) A method for depositing a tungsten silicide film as set forth in claim 1 or 2, which includes a first stage in which said phosphorus atom containing gas is added to said reactive gas, and a second stage in which said phosphorus atom containing gas is not added to said reactive gas.

5. (original) A method for depositing a tungsten silicide film as set forth in claim 1 or 2, wherein said reactive gas is mixed gas of tungsten hexaflouride (WF₆), dichlorosilane (SiCl₂H₂) and argon (Ar).

6. (original) A method for depositing a tungsten silicide film as set forth in claim 1, wherein a growth nucleus of tungsten silicide is formed on the surface of said polysilicon layer.

7. (original) A method for depositing a tungsten silicide film as set forth in claim 2, wherein lattice defects, which may be produced, are filled with silicon atoms of said polysilicon layer or said tungsten silicide layer.

8. (canceled)

9. (currently amended) ~~A method for preparing a gate electrode/wiring as set forth in claim 8, A method for preparing a gate electrode/wiring, which comprises:~~
~~a step of depositing a tungsten silicide layer on a polysilicon layer,~~
~~a step of depositing a silicon layer on said tungsten silicide layer; and~~
~~a side wall oxidizing step of forming a silicon oxide film on a side wall of a gate electrode/wiring layer including said polysilicon layer and said tungsten silicide layer,~~
wherein said silicon layer serves as a source for supplying silicon atoms to said silicon oxide film at said side wall oxidizing step.

10. (currently amended) ~~A method for preparing a gate electrode/wiring as set forth in claim 8, A method for preparing a gate electrode/wiring, which comprises:~~

a step of depositing a tungsten silicide layer on a polysilicon layer,

a step of depositing a silicon layer on said tungsten silicide layer; and

a side wall oxidizing step of forming a silicon oxide film on a side wall of a gate electrode/wiring layer including said polysilicon layer and said tungsten silicide layer,

wherein at said step of depositing the tungsten silicide layer on the polysilicon layer, a phosphorus atom containing gas is added to a reactive gas at least in the initial stage that said tungsten silicide layer is formed, and the amount of the added phosphorus atom containing gas is set to be in the range of 0.2 vol.% to 0.45 vol. %.

11. (currently amended) ~~A method for preparing a gate electrode/wiring as set forth in claim 8, A method for preparing a gate electrode/wiring, which comprises:~~

a step of depositing a tungsten silicide layer on a polysilicon layer,

a step of depositing a silicon layer on said tungsten silicide layer; and

a side wall oxidizing step of forming a silicon oxide film on a side wall of a gate electrode/wiring layer including said polysilicon layer and said tungsten silicide layer,

wherein at said step of depositing the tungsten silicide layer on the polysilicon layer, a phosphorus atom containing gas is added to a reactive gas at least in the initial stage that said tungsten silicide layer is formed, and a tungsten silicide layer forming temperature is set to be a temperature at which silicon atoms of said polysilicon layer are activated.

12. (original) A method for preparing a gate electrode/wiring, which comprises:
a step of depositing a tungsten silicide layer on a polysilicon layer;
a side wall oxidizing step of oxidizing a side wall of a gate electrode/wiring layer
containing said polysilicon layer and said tungsten silicide layer; and
a short-time annealing step carried out between said depositing and oxidizing
steps.

13. (original) A method for preparing a gate electrode/wiring as set forth in claim 12,
wherein at said step of depositing the tungsten silicide layer on the polysilicon layer, a
phosphorus atom containing gas is added to a reactive gas at least in the initial stage that
said tungsten silicide layer is formed, and the amount of the added phosphorus atom
containing gas is set to be in the range of 0.2 vol. % to 0.45 vol. %.

14. (original) A method for preparing a gate electrode/wiring as set forth in claim 12,
wherein in at said step of depositing the tungsten silicide layer on the polysilicon layer, a
phosphorus atom containing gas is added to a reactive gas at least in the initial stage that
said tungsten silicide layer is formed, and a tungsten silicide layer forming temperature is
set to be a temperature at which silicon atoms of said polysilicon layer are activated.

15. (canceled)

16. (currently amended) ~~A gate electrode/wiring structure as set forth in claim 15,~~
A gate electrode/wiring structure comprising:

a polysilicon layer;
a tungsten silicide layer formed on said polysilicon layer; and
a silicon layer formed on said tungsten silicide layer;
wherein the silicon layer acts as a source for providing silicon with a side wall in the side wall oxidizing step of forming a silicon oxide film on the side wall.

17. (currently amended) ~~A gate electrode/wiring structure as set forth in claim 15,~~
A gate electrode/wiring structure comprising:

a polysilicon layer;
a tungsten silicide layer formed on said polysilicon layer; and
a silicon layer formed on said tungsten silicide layer;
wherein the tungsten silicide layer comprises a first tungsten silicide layer including a phosphorus atom and a second tungsten silicide layer formed on the first tungsten silicide layer.

18. (currently amended) ~~A method for preparing a gate electrode/wiring as set forth in claim 8 or 12,~~ A method for preparing a gate electrode/wiring, which comprises:

a step of depositing a tungsten silicide layer on a polysilicon layer,
a step of depositing a silicon layer on said tungsten silicide layer; and
a side wall oxidizing step of forming a silicon oxide film on a side wall of a gate electrode/wiring layer including said polysilicon layer and said tungsten silicide layer,
wherein the step of depositing a tungsten silicide layer is a step of depositing a tungsten silicide layer including a phosphorus atom on the polysilicon layer.

19. (previously presented) A method for preparing a gate electrode/wiring as set forth in claim 12, wherein the short-time annealing step is an annealing step for preventing silicon atoms from diffusing from the polysilicon layer.
20. (previously presented) A method for preparing a gate electrode/wiring as set forth in claim 12, wherein the step of depositing a tungsten silicide layer on the polysilicon layer comprises a first step of depositing a first tungsten silicide layer including a phosphorus atom on the polysilicon layer and a second step of depositing a second tungsten silicide layer on the first tungsten silicide layer.
21. (previously presented) A method for preparing a gate electrode/wiring as set forth in claim 12, wherein the short time annealing step is carried out for 30 seconds at 1000°C in an atmosphere of 100% nitrogen.

22-27. (canceled)

28. (new) A method for preparing a gate electrode/wiring as set forth in claim 12, wherein the step of depositing a tungsten silicide layer is a step of depositing a tungsten silicide layer including a phosphorus atom on the polysilicon layer.